



**Australian Government**

# **MSS014003 Optimise sustainability of a process or plant area**

**Release: 1**

# **MSS014003 Optimise sustainability of a process or plant area**

## **Modification History**

Release 1. Supersedes and is equivalent to MSS014003A Optimise sustainability of a process or plant area.

## **Application**

This unit of competency covers optimising the sustainability performance of a complete work area in a plant or part of the manufacturing value chain. It includes ensuring that production systems comply with sustainability and other environmental requirements and that optimal process, plant and equipment utilisation is planned and carried out. It also covers problem solving to fully meet sustainability needs and to ensure that production of finished goods meets customer requirements.

This unit applies inside organisations and their value chains and has been developed with manufacturing operations as a focus especially work areas that process materials or components to manufacture products. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations.

The unit scope includes products made, services offered, and use of sites by an organisation or manufacturing value chain member (e.g. supplier of goods or services or a customer).

This unit describes the work conducted by senior operators, technicians, team leaders or frontline managers and other support staff who optimise process systems as part of their work function. The unit includes all items of equipment and unit operations which form part of the process of a complete area and assumes that the required production, technical, science or other operational skills and knowledge necessary to work in the process or work area have already been gained.

Environmental sensitivities referred to in this unit are at the issue level. The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## **Pre-requisite Unit**

Nil

## **Competency Field**

Sustainable operations

## **Unit Sector**

Not applicable

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- |   |  |  |
|---|--|--|
| 1 | <b>Analyse and evaluate current sustainability performance of process or work area</b> | <p>1.1 Identify sustainability goals of the enterprise as they relate to work area.</p> <p>1.2 Compare actual with possible performance.</p> <p>1.3 Identify abnormal or sub-optimal sustainability performance.</p> <p>1.4 Identify hazards associated with process, plant and equipment relevant to work area.</p> <p>1.5 Collect and evaluate relevant records to determine possible causes for sub-optimal sustainability performance.</p> <p>1.6 Use appropriate techniques to rank possible causes from most to least probable cause.</p>  |
| 2 | <b>Develop plan to optimise sustainable performance of process or work area</b>        | <p>2.1 Analyse causes to determine action.</p> <p>2.2 Predict the impact of a change in one unit or area on other value chain components.</p> <p>2.3 Predict the impact of a change on sustainability performance.</p> <p>2.4 Develop measurable objectives and evaluate alternatives.</p> <p>2.5 Identify requirements to implement change.</p> <p>2.6 Consult with stakeholders regarding planned changes and impacts.</p> <p>2.7 Develop optimisation plan taking account of hazards identified and sustainability implications and communicate to appropriate personnel.</p> <p>2.8 Evaluate optimisation action to determine measures of effectiveness.</p> |

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|---|---|---|
| 3 | <b>Coordinate sustainability optimisation action plan</b> | 3.1 Coordinate all appropriate process steps and operations in order to rectify causes in process, plant and equipment performance. |
|   |   | 3.2 Initiate and/or implement all required optimisation actions.  |
|   |   | 3.3 Communicate optimisation outcomes to all relevant personnel.  |
|   |   | 3.4 Implement procedures and systems to eliminate possible future causes.   |
|   |   | 3.5 Record all relevant information.  |
|   |   |   |
| 4 | <b>Develop continuous improvement strategies</b>          | 4.1 Review sources of information to identify possible factors causing sub-optimal performance.                                     |
|   |   | 4.2 Identify options for removing or controlling the risk of sub-optimal performance.   |
|   |   | 4.3 Assess the adequacy of existing control and quality methods and systems.  |
|   |   | 4.4 Identify opportunities to continuously improve performance.   |
|   |   | 4.5 Develop recommendations for continual improvement of process, plant and equipment effectiveness.                                |
|   |   | 4.6 Consult with appropriate personnel and implement continuous improvement strategies.   |
|   |   | 4.7 Document implementation of continuous improvement strategies.   |

## Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

**Sustainability includes all of**

- meeting all regulatory requirements
- conforming to all relevant industry covenants, protocols and best practice guides
- minimising ecological footprint of process, plant, product or work area
- maximising economic benefit of process plant and product to the organisation and the community
- minimising the negative work health and safety (WHS) impact on employees, community and customer (e.g. WHS impacts of process, product and wastes).

**Interactions with the environment include one or more of**

- drawing physical resources from the environment
- releasing materials to the environment (e.g. emissions)
- drawing energy from/releasing energy to the environment.

**Procedures (written, verbal, visual, computer based, etc.) include one or any combination of**

- work instructions
- standard operating procedures
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

**Environmental sensitivities include one or more of**

- fragile areas, and rare or threatened species
- heritage or cultural sensitivity issues
- hazardous emissions
- real or perceived overuse of scarce resources
- noise
- regulated emissions or other regulatory issues
- community perceptions or other issues.

**Performance is indicated by one or**

- historical data and records
- design performance
- process/takt time requirements.

**more of**

- Sustainability improvements include reduction in use of one or more of**
- energy
  - water
  - raw materials
  - emissions
  - embedded carbon in transport, storage, rework and errors, inefficient processes and design, and general facility efficiencies.

- Sustainability related issues include one or more of**
- current and future availability of raw materials
  - current and future availability of energy
  - extent and type of waste generation and disposal
  - efficiency of process in terms of consumption of materials and energy regarded as in short supply or which are regarded as environmentally sensitive
  - the extent to which the production process, product and waste affects the environment
  - relationship with the local and broader community, (e.g. effect of operations on aesthetic appearance, preservation of heritage, and proximity to schools and religious facilities)
  - extent of regulatory oversight and extent and cost of compliance.

- Hazards is used to include one or more of**
- sustainability hazards
  - environmental hazards
  - health hazards
  - safety hazards.

- Data and records include one or more of**
- orders, project briefs or customer specifications
  - hazard logs
  - incident reports
  - maintenance records
  - errors and non-conformance reports
  - production records.

**Unit Mapping Information**

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## **Links**

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>